



Bexley demolition sought

Facilities official says renovations not worth it

By Stan Gill
NEWS EDITOR

Yesterday, at a meeting with the advisory group for the future of Bexley Hall, the Department of Facilities and the Division of Student Life put forth a recommendation for the demolition of the building. Formerly an undergraduate dorm, Bexley Hall was closed after commencement this past year after inspections revealed a myriad of structural issues. If the recommendation is accepted by senior MIT administrators, the proposal will go to the City of Cambridge to acquire the necessary permits to evaluate and demolish the historic building.

Director of Campus Planning, Engineering & Construction Richard L. Amster expressed that after evaluating the building's condition, reno-

vating and reusing the building would essentially mean rebuilding it from the ground up.

Although Amster did not disclose the preliminary cost-benefit analysis that Facilities had done, he suggested that demolishing the building and starting anew may simply be a better value for the Institute in the long run. If the building were to be renovated for structural integrity, the extent of the renovations would require that the building be brought to today's building code standards, which would include, among other things, installing an elevator, wider doorways, and horizontal-circulation corridors. These additions would significantly increase the cost of the renovation project.

"I would have a hard time recommending to leadership to make the investment in the facility to renew it," Amster said

in an interview with *The Tech*.

Amster explained that, unlike Random Hall — a building that also received repairs this summer, but reopened at the start of term — Bexley Hall was in much worse shape. Bexley was checked last spring as a part of the Accelerated Capital Renewal program that was inspecting the facades of all the brick buildings on campus. After Facilities found several concerning structural issues, they sought outside guidance on how to proceed. Two engineering reports and a recommendation from a structural engineer later, Facilities recommended to the Division of Student Life to close and renovate Bexley after commencement 2013.

While Facilities has been assessing Bexley, they have met four times with the Bexley ad-

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Paola Cappellaro (left), an associate professor in the Department of Nuclear Science and Engineering and Susan J. Hockfield (right), the former President of MIT, share insights during an interdisciplinary panel on women in academia. Hosted by Undergraduate Women in Physics on Wednesday evening in 10-250, the panel featured four female professors and was held in honor of Pessor Dresselhaus's contributions to women and junior faculty.

Life explained differently: two new intro biology classes

7.015 and 7.016 added to the slate of biology GIRs to contrast and relieve classic 7.012

By Kath Xu
ASSOCIATE NEWS EDITOR

The biology department launched two new introductory biology classes this term, 7.015 and 7.016, bringing the total number of introductory biology classes to five. 7.015 is the first intro biology class to cater towards students who come from a stronger biology background and 7.016 is the first to focus more on biochemistry than the other 7.01x classes. 7.015 also incorporates discussion-based recitations and guest lectures, in contrast to the standard lecture format of the other 7.01x

classes.

After last year's 7.012 over enrollment (hitting 835 students), the new 7.016 course eased the class size, taking in 325 students. Currently, 7.012 is capped at 550 enrolled students while 7.016 has 40 students.

All five intro biology courses (7.012, 7.013, 7.014, 7.015, and 7.016) share a common curriculum core that makes up approximately 50 percent of each class. Previously, the only intro biology class offered in the Fall was 7.012, while 7.013 and 7.014 were offered in the spring. According to MIT's subject listing, 7.012 emphasizes a genetic approach to

biology, 7.013 focuses on human biology, and 7.014 specializes in ecology and biogeochemical cycles.

7.015

When MIT stopped accepting AP Biology credit as a substitute for the biology General Institute Requirement (GIR) in 2007, there were no plans at the time to offer a different version of the GIR for those who had taken advanced biology courses in high school. According to 7.015 instructor Dr. Leah Okumura, 7.015 is the department's attempt to "really provide something extra for students who have already

taken a good amount of biology in high school." 7.015 has a different class structure from the standard 7.012 format. About half of the recitations are also discussion-based and the class hosts guest lecturers. To make up for having fewer midterms and problem sets (7.015 has 2 midterms and 4 problem sets instead of the usual 3 and 7), 7.015 has extra readings, discussions, and writing assignments.

"We prefer to call it the enriched version [of intro biology]," she said. "It's not necessarily more advanced, but we use different curriculum materials and a different strategy for

teaching biology."

Kathryn M. Farris '17 said she enjoyed the new spin on the core curriculum.

"I was attracted to 7.015 because I felt like it offered a more current, real-life approach to biology, which sounded a lot more interesting to me," Farris said. "I think one of the best parts about it is that the TAs and professors are all really open to feedback from us (the students) as to how we can improve the structure and pacing of class."

Luisa R. Kenausis '17 added,

Biology, Page 16

New office for green MIT

Director is from Yale sustainability office

By Omar Ibarra
STAFF REPORTER

After years of experience in the field of campus sustainability, Julie Newman will take on a role as the first director of MIT's new Office of Sustainability.

The Office of Sustainability was created in mid-August by MIT Executive Vice President Israel Ruiz, and currently consists of a three-person staff of Newman, Steven M. Lanou and Susy Jones. Newman's position was created to address ecological, economic and social equity problems and provide effective solutions. This includes but is not limited to issues such as water, waste, and energy management.

"As director, my role is to build upon an already existing foundation of MIT's commitment to sustainability," said Newman.

Newman sees her role as threefold. First is her commit-

ment to focusing on the operational campus system. "I need to know how to integrate sustainability across all our operational systems across campus," she said.

From there, Newman plans to engage the MIT community, and lastly, to develop partnerships within the university, across the cities of Boston and Cambridge, and beyond. Despite the small size, Newman is confident that the office will have a significant impact.

After earning her PhD from Tufts University in 1995, Newman went on to begin work in campus sustainability, eventually becoming the founding director of the Office of Sustainability at Yale University. "We established a very robust roadmap that cut across all operational divisions of the university," she said.

While she enjoyed success

Sustainability, Page 17

MIT fined for emissions

Cogen violations cost Institute \$15,000

By Rosa Ruiz

Following a review of 2012 emissions records and an inspection of MIT's power plant on Vassar Street, the Massachusetts Department of Environmental Protection (MassDEP) fined MIT \$15,000 for violations in the monitoring of emissions.

Although the infractions occurred during 2010 and 2011, they were not discovered until MassDEP reviewed 2012 reports and inspected the MIT plant site, examining the plant's emergency generators, boilers, and exhaust stacks.

"The inability to adequately monitor the facility's air quality emissions, in a manner that is consistent with its operating permit, is unacceptable," said Eric Worrall, acting Regional Director of MassDEP's Northeast Regional Office.

MassDEP discovered that the

plant had been emitting overly opaque emissions, as well as too much carbon monoxide. In addition, the plant's systems responsible for monitoring carbon monoxide and nitrogen oxides emissions and analyzing opacity were found to have unsafe amounts of downtime.

"MIT is committed to maintaining a green campus and clean air emissions are an important part of that effort. We are working with the Massachusetts Department of Environmental Protection to ensure our Central Utilities Plant meets or exceeds the standards specified in our air permits," said William Van-Schalkwyk, managing director of the Environment, Health, and Safety Office at MIT.

The Vassar Street plant, the William R. Dickson Cogeneration Facility, has been supplying

Air quality, Page 18

IN SHORT

Economist and MIT alumnus Robert J. Shiller PhD '72 won the 2013 Nobel Prize in economic sciences for his empirical analysis of asset prices. Shiller, currently a Sterling Professor of Economics at Yale University, will share the award with Eugene F. Fama and Lars Peter Hansen of University of Chicago.

Interested in study abroad? The Cambridge-MIT Exchange (CME) info session is Monday 5:15 p.m. – 6:30 p.m. in 4-149. A China Study and Intern Abroad info session is Tuesday 5:15 p.m.–6:30 p.m. in 1-277.

Interested in the MIT IDEAS Global Challenge? The deadline for the first chance to submit a Scope Statement is Thursday, Oct. 24 by 11:59 p.m. For more information, visit <http://globalchallenge.mit.edu/competition/how-to-enter>.

Send news information and tips to news@tech.mit.edu.

IN-CLASS BRAINSTORMING

What's the real purpose of throwing out product ideas during class? **FUN, p. 6**

MY COMPUTER IS MY ENABLER

What can I do without it?

FUN, p. 6



FROM ITALY TO KRESGE

La Scala Chamber Orchestra performs Fantasies from Verdi's Operas at MIT. **ARTS, p. 13**

CONCERT: A TASTE OF MITSO

MITSO presented its first concert of the semester last Saturday. **ARTS, p. 10**

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New York soda ban to go before state's top court

NEW YORK — The battle over big sodas is not yet finished. Mayor Michael R. Bloomberg's ballyhooed and much-criticized attempt to limit the size of sugary drinks in New York City is set to be reviewed by the state's highest court, the Court of Appeals, the city announced Thursday, offering a final chance to salvage a plan that has twice been rejected by judges as improper.

But the fate of the proposal now lies squarely in the hands of Bloomberg's successor. The Court of Appeals is not planning to take up the case until next year, after Bloomberg is out of office, leaving the decision to pursue the case up to the next mayor.

Bill de Blasio, the Democratic nominee for mayor and the overwhelming front-runner in the polls, had been a consistent and vocal endorser of the soda-size restrictions, in a rare point of harmony with a mayor whose policies he has ferociously criticized. Two months ago, de Blasio said in an interview that Bloomberg was "right on this issue," adding: "A ban on large sugary drinks is an important part of any public health agenda."

On Thursday, however, the de Blasio campaign offered an ambiguous response to questions about whether he would press the appeal.

"Bill supports the ban on large sugary drinks; as mayor, he would review the status of the city's litigation," a spokesman, Dan Levitan, wrote in an email. He declined to elaborate.

The Republican nominee for mayor, Joseph J. Lhota, said Thursday that, if elected, he would withdraw the city's appeal, allowing the ban proposal to die.

The small-soda proposal, announced last year, was a signature initiative of Bloomberg's health-oriented City Hall and prompted debate about the link between sweet beverages and obesity. But the plan proved unpopular with New Yorkers, who bristled at its restrictions, and it was attacked by the soft drink industry, which stood to lose millions if it came to pass.

The industry, along with allies including the local chapter of the NAACP, sued, and persuaded a state judge to throw out the plan on the grounds that it was an unlawful overreaching by the city's Board of Health. A midlevel appellate court agreed.

Bloomberg and the soft drink industry issued statements Thursday, each saying it was "confident" its side would prevail at the Court of Appeals.

—Michael M. Grynbaum, *The New York Times*

Door may open for challenge to secret wiretaps

WASHINGTON — Five years after Congress authorized a sweeping warrantless surveillance program, the Justice Department is setting up a potential Supreme Court test of whether it is constitutional by notifying a criminal defendant — for the first time — that evidence against him derived from the eavesdropping, according to officials.

Prosecutors plan to inform the defendant about the monitoring in the next two weeks, a law enforcement official said. The move comes after an internal Justice Department debate in which Solicitor General Donald B. Verrilli Jr. argued that there was no legal basis for a previous practice of not disclosing links to such surveillance, several Obama administration officials familiar with the deliberations said.

Meanwhile, the department's National Security Division is combing active and closed case files to identify other defendants who faced evidence resulting from the 2008 wiretapping law. It permits eavesdropping without warrants on Americans' cross-border phone calls and emails so long as the surveillance is "targeted" at foreigners abroad.

It is not yet clear how many other such cases there are, nor whether prosecutors will notify convicts whose cases are already over. Such a decision could set off attempts to reopen those cases.

—Charlie Savage, *The New York Times*

Snowden says he took no secret files to Russia

By James Risen
THE NEW YORK TIMES

WASHINGTON — Edward J. Snowden, the former National Security Agency contractor, said in an extensive interview this month that he did not take any secret NSA documents with him to Russia when he fled there in June, assuring that Russian intelligence officials could not get access to them.

Snowden said he gave all of the classified documents he had obtained to journalists he met in Hong Kong, before flying to Moscow, and did not keep any copies for himself. He chose not to take the files to Russia "because it wouldn't serve the public interest," he said.

"What would be the unique value of personally carrying another copy of the materials onward?" he added.

He also asserted that he was able to protect the documents from China's spies because he was familiar with that nation's intelligence abilities, saying that, as an NSA contractor, he had targeted Chinese operations and had taught a course on

Chinese cyber counterintelligence.

"There's a zero percent chance the Russians or Chinese have received any documents," he affirmed.

U.S. intelligence officials have expressed grave concern that the files might have fallen into the hands of foreign intelligence services, but Snowden said he believed that the NSA knew he had not cooperated with the Russians or the Chinese. Snowden publicly revealed that he no longer had any agency documents to explain why he was confident that Russia had not gained access to them. He had been reluctant to disclose that information previously, he said, for fear of exposing the journalists to greater scrutiny.

In a wide-ranging interview over several days last week, Snowden offered detailed responses to accusations that have been leveled against him by U.S. officials and other critics. Additionally, he provided new insights into why he became disillusioned with the NSA and decided to disclose the documents, as well as talked about the international debate over surveillance that resulted

from the revelations. The interview took place through encrypted online communications.

Snowden, 30, has been praised by privacy advocates and assailed by government officials as a traitor who has caused irreparable harm, and is facing charges under the Espionage Act for leaking the NSA documents to the media. In the interview, he said he believed he was a whistle-blower acting in the nation's best interests by revealing information about the NSA's surveillance dragnet and huge collections of communications data, including the communications of Americans.

He argued that he had helped U.S. national security by prompting a sorely needed public debate about the scope of the intelligence effort.

"The secret continuance of these programs represents a far greater danger than their disclosure," Snowden said.

He added that he had been more concerned that Americans had not been told about the NSA's reach than he was about any specific surveillance operation.

Shutdown over, government slowly gets back to normal

By Michael D. Shear
THE NEW YORK TIMES

WASHINGTON — The U.S. government sputtered back to life Thursday after President Barack Obama and Congress ended a 16-day shutdown, clearing the way for federal agencies to again deliver services, reopen public facilities, and welcome hundreds of thousands of furloughed employees back to work.

The political standoff in the nation's capital ended just minutes before the midnight deadline when the government's ability to borrow money would have expired. Republicans conceded defeat Wednesday by agreeing to finance the operations of government until Jan. 15 and raise the nation's debt limit through the middle of February. The Senate passed the legislation first, and the House followed around 10:15 p.m.

The agreement paves the way for another series of budget negotiations

in the weeks ahead, even as conservative Republicans in the House and Senate vowed to renew their fight for cuts in spending and changes to the Affordable Care Act.

Just hours after Obama signed the temporary spending measure into law around 12:30 a.m., agencies in Washington and across the country prepared to reopen offices, public parks, research projects and community programs that have been mothballed for more than two weeks. The government's top personnel officer announced that officials should restart normal functions "in a prompt and orderly manner."

In Washington, the city's subway trains were once again packed with federal workers streaming in from the suburbs, government IDs dangling from lanyards around their necks. At the Lincoln Memorial, tourists waited nearby as a park ranger cut down the signs announcing that the memorial was closed.

Robert Lagana said Thursday that he was eager to get back to his job at the International Trade Commission. "It beats climbing the walls, wondering where your next paycheck is going to be and how you're going to make your bills," Lagana said as he made his way to his office near L'Enfant Plaza.

But he also expressed frustration with lawmakers who held up the budget over the new health care law. "They really need to come up with a law where this never happens again," he said, adding later, "You just feel like you don't have a voice."

At the Environmental Protection Agency headquarters in Washington, Vice President Joe Biden showed up to see workers who had been furloughed. "I brought some muffins!" Biden said as he arrived at the security desk. Asked about the shutdown, he said: "I'm happy it's ended. It was unnecessary to begin with. I'm happy it's ended."

WEATHER Seasonable sunshine in store

By Vince Agard
STAFF METEOROLOGIST

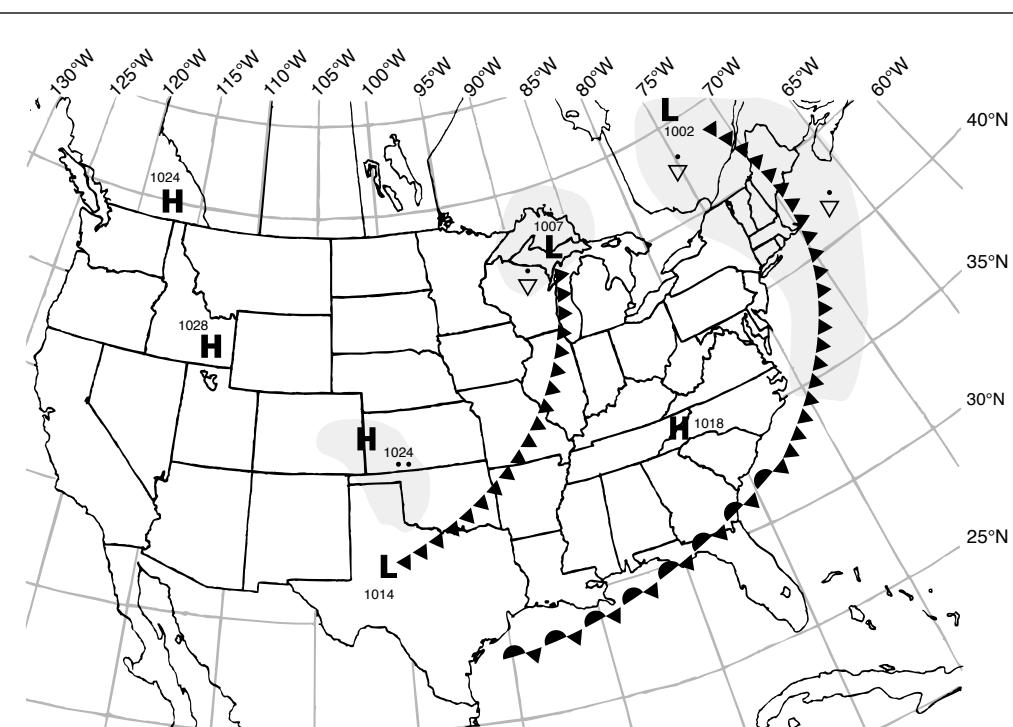
A mostly sunny, seasonable weekend is in store after two consecutive days of above-average temperatures. Yesterday's high temperature at MIT was 73°F, well above the mean value of 61°F normally recorded at nearby Logan Airport. Likewise, southerly winds will keep a warm, moist air mass in place early this morning, allowing temperatures to approach the 70-degree mark for the second day in a row. This time, however, a cold front will pass through the area during the morning hours, resulting in increased windiness, a

drop in humidity, and the arrival of cooler air from our north and west. That cooler air mass will continue to move in over the next couple of days, creating a more seasonable weather pattern, with highs near 60°F and lows around 45°F by the beginning of next week.

Some showers will be possible on Saturday night and Sunday morning with the passage of a weak disturbance through the area. For the most part, however, the weekend will be pleasant, with a relative abundance in sunshine. The same could not be said for this weekend in 1770, when a hurricane struck Boston, causing the city to record its highest tides in 47 years.

Extended Forecast

Today: Breezy with early morning clouds giving way to sunshine, high 70°F (21°C). Winds W at 15–25 mph.
Tonight: Clear, low 51°F (11°C). Winds W at 5–10 mph.
Tomorrow: Mostly sunny, high 68°F (20°C). Winds W at 10–15 mph.
Sunday: A chance of showers early, then mostly sunny with highs in the low 60s°F (17°C).
Monday: Mostly sunny, highs in the low 60s°F (17°C).



Situation for Noon Eastern Time, Friday, October 18, 2013

Weather Systems		Weather Fronts		Precipitation Symbols		Other Symbols	
H	High Pressure	- - -	Trough	Snow	Rain	Fog	
L	Low Pressure	W - - W	Warm Front	Shower	•		
§	Hurricane	W - - W	Cold Front	*	•	Thunderstorm	
		W - - W	Stationary Front	Light	•	Haze	
				Moderate	•		
				Heavy	•		

Compiled by MIT Meteorology Staff and *The Tech*

Israel-Turkey ties strained by reports of spy exposure

By Isabel Kershner
THE NEW YORK TIMES

JERUSALEM — Persistently strained relations between Israel and Turkey have not been helped by a report that, last year, Turkey revealed to Iran the identities of up to 10 Iranians who had spied for Israel.

The Israeli government would not comment Thursday on the report, but Danny Yatom, a former chief of Mossad, Israel's intelligence agency, told Israel Radio, "Assuming that this is true, this was an extraordinarily malicious thing to do."

A column published Wednesday on The Washington Post's website reported that, in early 2012, the Turkish government made the disclosures about Iranians who had been meeting Israeli intelligence officers on Turkish soil. The column, by David Ignatius, said that "knowledgeable sources" called the episode a "significant" loss of intelligence and "an effort to slap at the Israelis," and that the betrayal had marred a 50-year intelligence alliance.

ance between Turkey and Israel.

The Turkish foreign minister, Ahmet Davutoglu, said, in televised remarks Thursday, that the allegations in the column were "without any foundation."

Turkey, which shares borders with Iran, Iraq, and Syria, among other countries, once served as "a convenient place for Israel to work to reach people from hostile countries," Yatom said. But while there had been "outstanding" cooperation in earlier years between Israel and Turkey, Israel now is "not open with the Turks, as we were in the past," Yatom said.

He added, "We are suspicious of the Turks, that they relay information to Iran that could endanger us."

Turkey once ranked as Israel's closest ally in the Muslim world; it took part in joint exercises in the Mediterranean with the Israeli and U.S. navies, and allowed Israeli jet pilots to train in Turkey's relatively vast airspace.

But relations began to sour over Israel's deadly three-week offensive against the Hamas militant group controlling Gaza in the winter of

2008-2009. The strategic partnership weakened further in May 2010, when Israeli commandos met resistance when boarding ships seeking to break the Israeli naval blockade of Gaza, and eight Turks and an American of Turkish descent were killed. Turkey sharply downgraded its diplomatic and military ties with Israel in September 2011, expelling the Israeli ambassador after Israel refused to apologize for the deaths.

In December 2011, Israel canceled a \$141 million contract to supply Turkey with an advanced aerial intelligence system. An Israeli official said, at the time, that the reason was Turkey's shifting allegiances in a turbulent region, which led Israel to fear that the delicate technology could end up in the hands of hostile governments, like that of Iran.

With Syria's descent into a civil war underlining the enduring interests shared by Israel and Turkey, the United States urged these two important U.S. allies to restore cooperation. When President Barack Obama visited Israel in March, he brokered a reconciliation agreement.

Oil companies are sued in waste of natural gas

By Clifford Krauss
THE NEW YORK TIMES

HOUSTON — In the sharpest challenge yet to the surge in flaring of natural gas in the Bakken shale oil field, North Dakota mineral owners this week filed 10 class-action lawsuits seeking millions of dollars in lost royalties from some of the nation's largest oil companies.

Roughly 1,500 fires burn above western North Dakota because of the deliberate burning of natural gas by companies rushing to drill for oil without having sufficient pipelines to transport their production. With cheap gas bubbling to the top with expensive oil, the companies do not have an economic incentive to build the necessary gas pipelines, so they flare the excess gas instead.

Flaring is environmentally less harmful than releasing raw natural gas into the atmosphere, but the flared gas still spews climate-warming carbon dioxide into the

atmosphere. The quantities of gas burned are so large that the fires rising above wheat and sunflower fields look like a small city in NASA photographs taken from satellites.

Flared gas has nearly tripled in the last two years in North Dakota, with almost 30 percent of the output in the state burned at wells, producing emissions equivalent to more than two medium-size coal-fired power plants.

The value of flared gas in the state is roughly \$100 million a month, leading property owners who lease their lands to the oil companies to believe they are losing money even though they are earning increasing royalties from the fast expansion of oil production in North Dakota. Oil output has risen by 100,000 barrels a day since May alone.

"The lawsuits seek to force operators to comply with state law and pay royalties to mineral owners on the value of flared gas," according to a statement released Wednesday

by one of five law firms that filed the suits, "and by so doing create a compelling economic incentive for producers to reduce and eliminate the wasteful practice of flaring."

Companies being sued include Continental Resources, XTO Energy, SM Energy and Marathon Oil.

North Dakota regulators allow companies to seek exemptions for flaring as they connect their wells to gas-gathering lines, but the suits accuse the companies of violating deadlines and other limitations.

Oil companies and their local trade association say they are working as fast as possible to build pipelines, and they note that the companies now flare about 29 percent of the gas they produce, compared with 36 percent in September 2011.

Companies belonging to the North Dakota Petroleum Council announced the formation of a task force this week to increase efforts to reduce flaring. The group is expected to present a report by the end of the year.

Google results top Wall Street expectations

By Claire Cain Miller
THE NEW YORK TIMES

SAN FRANCISCO — For more than a decade, Google's search ad business has seemed almost magical in its ability to mint money.

But the magic is beginning to wear off, as changing digital behavior on mobile phones and even on desktops threatens Google's main business.

The company pleased analysts and shareholders when it announced better-than-expected third-quarter financial results Thursday. Still, the report revealed that, as its desktop search business matures, the price that advertisers pay when they click on ads has continued to fall.

"Google's core desktop search business was probably the best Internet business ever created," said Jordan Rohan, an Internet analyst at Stifel Nicolaus. "Every other business they're in, whether it be

mobile search or tablet computers or YouTube, just doesn't look as good from a margin perspective."

Google's core business, selling ads on Google.com and other sites it owns, increased 22 percent year over year. It is a notable rate after four quarters of sub-20 percent growth, although still lower than the 35 percent growth rates of two years ago. The price, too, that advertisers pay each time someone clicks on an ad decreased for the eighth quarter in a row, according to data collected by BGC Partners. It fell 8 percent from the same period last year, largely because mobile ads cost less than desktop ones.

"Google makes 90 percent of its money in the Web world, and it's in the wrong place," said George Colony, the chief executive of Forrester Research.

Google reported third-quarter revenue of \$14.89 billion, up 12 percent from a year ago. Net revenue, which excludes payments to

ad partners, was \$11.92 billion, up from \$11.33 billion. Net income rose to \$2.97 billion, or \$8.75 a share, from \$2.18 billion, or \$6.53 a share. Excluding the cost of stock options, Google's third-quarter profit was \$10.74 a share.

The results exceeded the expectations of analysts, who had predicted revenue of \$14.82 billion and earnings, excluding the cost of stock options, of \$10.35 a share. Analysts said they had given more conservative estimates this quarter, because they had an increasingly negative sentiment about Google after several quarters in which its results did not live up to their expectations.

Shares jumped more than 6 percent in after-hours trading.

Included in the results was a \$248 million operating loss at Motorola Mobility. Google has drastically cut costs at Motorola and introduced the Moto X phone, but its losses are expanding.

Decline in revenue at Goldman Sachs raises concerns

Among Goldman Sachs employees, the chatter started months ago that 2013 was going to be a good bonus year. The Wall Street bank began the year strong, and despite concerns about the economy, its profit doubled over year-ago levels in the second quarter.

These hopes were all but dashed Thursday when the firm announced that revenue in its fixed-income, currency and commodities division, a powerful unit that in better years has produced more than 35 percent of Goldman's entire revenue, dropped 44 percent from year-ago levels.

The weakness in this division has led to renewed concerns from analysts and investors about the headwinds Goldman and other banks are facing in big money-producing areas like the trading of interest rate products and currencies. There is some concern that the pull back is not short term and could be the new normal.

On Thursday, Goldman faced a number of questions on the revenue decline during a call with analysts. Analysts pushed, without much success, for more details on the reasons behind the drop in revenue for the unit. They also pressed executives about their expectations for the firm's return on equity, which effectively measures the profit a bank is able to generate on its capital. That return is hovering around 8 percent on an annualized basis, significantly lower than it has been in previous years, and well below the company's previously stated goal of 20 percent over time.

By slashing what it sets aside for compensation, Goldman was able to post a decent third-quarter profit, despite the revenue weakness. Quarterly earnings came in at \$1.52 billion Thursday, largely flat compared with the period a year earlier.

Its profit of \$2.88 a share managed to slightly exceed its performance of \$2.85 a share in the third quarter of 2012. And earnings were well ahead of expectations of \$2.43 a share, according to analysts polled by Thomson Reuters. But revenue in the quarter fell about 20 percent, to \$6.72 billion, well below analyst forecasts of \$7.36 billion.

Goldman shares fell 2.4 percent Thursday to close at \$158.32.

—Susanne Craig and Peter Eavis, *The New York Times*

Syrian official says peace talks could resume in November

LONDON — A Syrian government official said Thursday that long-postponed peace talks under international auspices — known in diplomatic shorthand as Geneva II — could be held in late November, raising speculation about who would attend and who would represent the fractured Syrian opposition, which is seeking to topple President Bashar Assad.

The official, Qadri Jamil, a deputy prime minister, said in Moscow that the discussions could be held in Geneva on Nov. 23, according to SANA, the official Syrian news agency. Some reports from Moscow quoted him as saying the talks could extend into Nov. 24. His remarks were the first to publicly mention a specific date.

Diplomacy surrounding Syria has gathered pace since September, when Russia and the United States brokered a deal for the Syrian government to give up its chemical weapons. But as the fighting continues, the question of which countries and which Syrian factions would take part in new talks remained unanswered.

At the United Nations, Martin Nesiry, a spokesman for Secretary-General Ban Ki-moon, said he could not confirm the dates mentioned by Jamil, and hinted that talk of a date was premature.

"When it is time for an announcement, the secretary-general will make one," Nesiry said.

Russia, a key backer of the Syrian government, also indicated that there was no deal on the talks. Reuters quoted Russia's Foreign Ministry spokesman, Alexander Lukashevich, as telling reporters, "We shouldn't get ahead of ourselves."

The SANA agency said Jamil spoke Thursday after talks with Russia's Middle East envoy, Mikhail Bogdanov, which the agency said were fruitful.

In the first round of discussions in Geneva in June 2012, major world powers failed to reach a consensus on the key question of whether to call for the ouster of Assad. The nine nations at the meeting agreed instead on a plan for a political transition in Syria, with Russia and China blocking attempts by other participants to require Assad's removal from power.

—Alan Cowell, *The New York Times*

Europe moves to shield citizens' data

BRUSSELS — Lawmakers here have introduced a measure in the European Parliament that could require U.S. companies like Google and Yahoo to seek clearance from European officials before complying with U.S. warrants seeking private data.

The measure, an amendment to a broader electronic privacy law pending in Parliament, is a response to Prism, the secret spying program led by the National Security Agency that came to light in June. Europeans were outraged by the revelations that some of the biggest U.S. Internet companies, many of whose users live in Europe, were required by the U.S. authorities to share information in email, Web searches and other online data.

Parliament's Committee on Civil Liberties, Justice and Home Affairs may vote on the amendment as soon as Monday, said Jan Philipp Albrecht, the German member who is responsible for steering the legislation through the Parliament. His office later clarified that the vote could be delayed until Thursday. Once it wins approval by the committee, Albrecht may begin negotiations on the Parliament's behalf with European governments, which are discussing their own version of new privacy rules.

The measure would obligate companies not based in the EU to nonetheless comply with European data protection rules if they operate in Europe. Violators could face fines of as much as 5 percent of a company's global annual revenue.

The amendment would require companies to seek approval from a "supervisory authority" in a bloc country before transferring data on a person's individual electronic communications, whether phone calls, emails, Web searches or social media interactions, outside the union at the request of a foreign government or court.

—James Kanter, *The New York Times*

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LETTERS TO THE EDITOR

The government shutdown, political blame, and the US healthcare system

I take strong exception to A.J. Edelman's recent column on the shutdown and his view that "in the current liberal climate," Democrats are being hypocritical and indulging in "whining" while the President "refuses to even sit down and negotiate," even so being "assigned absolutely no blame."

Let it first be noted that the current political situation is extremely volatile. On the very morning the opinion column appeared in *The Tech* and I sit down to write this reply (11 October 2013) came the news of a new "tone" in the discussions, and new confidence that a large-scale negotiations are, if not underway, now deemed more likely than they were a few weeks ago. There are also many news reports of massive disarray within the Republican party, of a "cave-in" on the debt ceiling problem, and of the disappearance of the "Defund Obamacare" war-cry of Tea Party Republicans and the abandonment of that goal. In other words, columns like Edelman's and letters like mine are always slightly behind current turns of events and our views may quickly be undercut. Furthermore, it is very hard to generalize about what either the House, the Senate, or the President wants, let alone what they might settle for.

Nevertheless, I am dismayed by Edelman's glib opinions. To start with: the anecdotal reports he cites can by no means be taken to prove the shrill Republican warnings of looming "steep increases" in health insurance premiums once "Obamacare" takes hold. Nor can I let pass unquestioned his equation of the "hypocritical" stance of "free speech for me but not for thee" [the title of the whole column] with the purported liberal stance of "for-me-but-not-for-thee" when it comes to paying for health care. This is sloganizing, not logical argument.

At the very least, the reasoning behind the new health care law, which I find convincing as a starting-point, is that once everyone is mandated to pay for insurance, medical costs will go down, and so will premiums. It is also intended that the poor be given access to health care without having to pay the same rates that the wealthy and the middle class do. But it is the Republican-dominated states that are doing their best to forestall or deny these goals in multiple ways: by refusing to fund increases in the Medicaid program, by not setting up state exchanges, etc. It is they who are saying health care "for me," but not for the poor. All of the (middle-class?) liberals I know (myself included) are more than willing to pay some modest increases in our insurance premiums if that will mean a fairer, socially just system can take hold. If it did, we'd have the same kind of system that exists in all other Westernized nations around the world. The kind of system that the scriptures of all major Western religions argue for when they

call upon us to feed the hungry, help the sick, shelter the homeless, etc. Sure, advocating for this as national policy is a "liberal" (or "left" or whatever you want to call it) point of view. But I am not hypocritical about it: I believe it is right, and I am willing to pay my fair share.

In reality, there is no better way to provide affordable health care for all than through a single-payer system, but many Americans run from that idea in horror, as if it means capitulation to some un-American socialistic system. So, for better or worse, the health care law that was passed is a massively complicated, multi-layered compromise. Of course it has flaws and bugs — but what large social welfare system doesn't?

Flaws can be fixed, and systems can be improved. But what is there to "negotiate," when the Republican position has been simply to do away with the law altogether? Edelman says that Obama and Democrats are being unreasonable ("whiny," etc.) in opposing a "one-year delay" of the law's implementation. But is that what the Republicans really want? Remember, the House has voted more than 40 times to revoke the bill entirely. Ted Cruz "filibustered" (sort of) to oppose the law outright, with eager support of Tea Party representatives, and the inexplicable tacit support of establishment Republicans. And, remember, it's the House's refusal to fund this law of the land and use that point to "draw a line in the sand" that led to the current shutdown. Recent polls have made it clear

Shutdown, Page 5

CORRECTIONS

In an article from last Friday's issue about the funding of the student humor magazine *Voo Doo*, an informal harassment complaint about recaptioned comics was mistakenly referred to as a "Title IX complaint," and a subheading mistakenly said that the Undergraduate Association (UA) investigated whether the magazine had committed Title IX violations. The UA only discussed whether to continue funding the magazine. The article also incorrectly said that the Association of Student Activities (ASA) brought the complaint before the UA's Finance Board (Finboard), when in fact Finboard, some of whose members are also part of the ASA, acted unilaterally.

The article also made several errors regarding the alloca-

tion process: Five (not four) council members objected to the current cycle's preliminary allocation, and the quarterly (not trimester) allocations were delayed by about two weeks (not one). The condition that *Voo Doo* representatives meet with Finboard and the Student Activities Office was unrelated and applied two funding cycles ago (not during the current cycle). Mark DiVincenzo and Jaren D. Wilcoxson of the General Council (not R. Gregory Morgan), recommended against using this condition for future cycles. The May 2013 meeting between Finboard and *Voo Doo*, which was also unrelated to the harassment complaint, took place before (not after) summer allocations were released. Cory Hernandez '14 is the treasurer of the UA and a former (not current) Vice-Chair of Finboard.

The article also mistakenly referred to *Voo Doo*, magazine editor Alina Kononov, and the Finance Board as "Voodoo," "Kononov," and the "Financial Board," respectively.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Chairman Sarah Ritter, Editor in Chief Anne Cai, Managing Editor Ian M. Gorodisher, Executive Editor Deborah Chen, and Opinion Editor Jacob London.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

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Political climate before shutdown ended was volatile

But Americans mostly want a fair and more just system

Shutdown, from Page 4

that a large majority of Americans did not want Republicans to do this and blame them for the current mess. This is not due to "liberal media bias," no matter how long Fox News and its friends cling to that delusion. It's due to common-sense reading of the current situation.

Do we all really need to be reminded that the current shutdown occurred four years after the health care law was passed, two years after it was reviewed and upheld by the Supreme Court, and almost one year since the president's reelection? And that the same election also saw the Republicans' failure to take control of the Senate, despite massive spending to do so and a lopsided number of Democratic seats up for grabs? If the 2012 election was in part a referendum on the health care law (although this is an uncertain point at best), then the law was surely vindicated. Moreover, there are probably many Americans who do need reminding that a one-year delay in implementation of

the small-business portion of the law has already been put into effect. Over the past few years there have been other compromises or alterations of what was originally hoped for, to placate different constituencies, right and left. The White House, if anything, has been too eager to negotiate in the past.

Furthermore, if Republicans were truly serious about wanting to negotiate over problems in the law, why have none of them put forward a bill giving a slate of particular reforms or changes? It would be much more reasonable for both sides to wait a year to see how the law does and does not work. Then, the parties might sit down and "negotiate" improvements. For far too many Republicans, the issue keeps coming down to doing away with the law, but without any clear alternative offered in its place, save for some sort of vague return to the status quo ante. (This would bring us back to the time when health costs continually skyrocketed, before the new law was passed.)

I suspect that much of the current

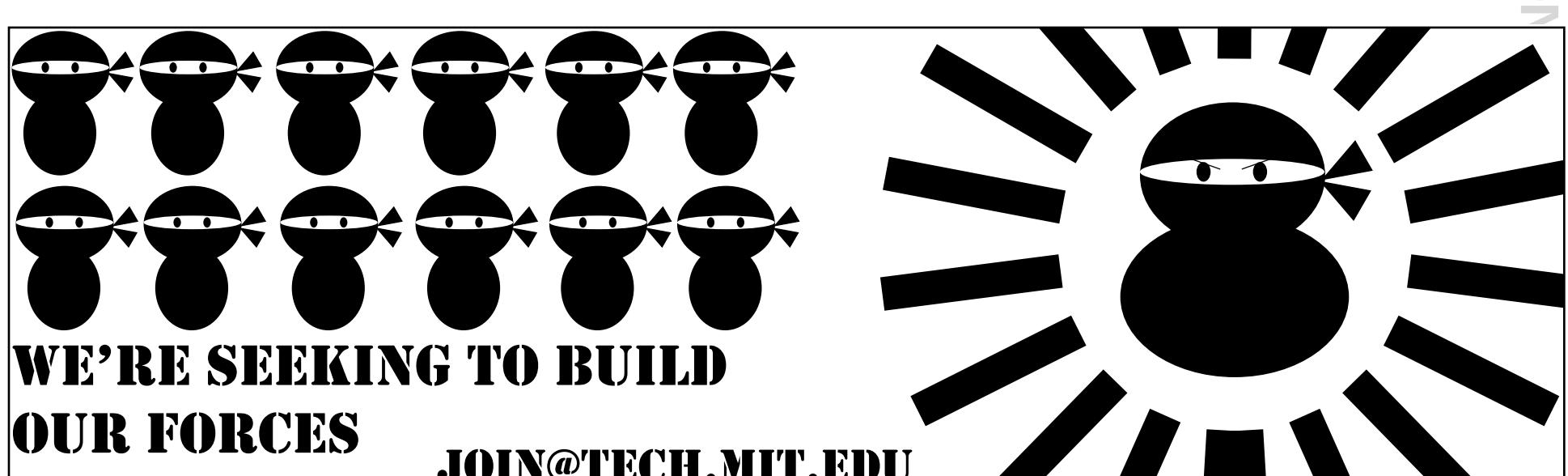
Republican obstructionism has to do with a deep-seated fear that the law will indeed prove to be an improvement over the current system, and that Americans will gradually come to take it for granted as much as they now do Social Security and Medicare. If so, Republicans will surely come to regret having labeled the law "Obamacare," because it will redound to his credit. Once upon a time, Romney was praised for supporting such an initiative in our state, and his political fortunes rose. Has Massachusetts suffered dire consequences because of its health care law? Have our premiums soared because of it? Surely many Republicans are aware of this and wonder if they can stop the law from succeeding, except by dismantling it altogether. But whatever the basis for their fear, it seems to be a "non-negotiable" feeling that reasonable people can't seem to fathom.

"For Me but Not for Thee" sounds like a great "mantra" to pin on Democrats. But it's sophistry. What I and many Americans want is a system that is more fair and more

just — "For you and for me, for one and for all." Yes we are impassioned, but we are neither hypocritical, whiny, nor unreasonable. We are certainly willing to pay a little more in taxes, if that's what is required to forestall excessive increases in the national debt, so long as the wealthy also be called upon to contribute more. (For the sake of keeping my letter from becoming way too long, I have left the debt issue out of this discussion, even though it is another key component in the current political crisis.)

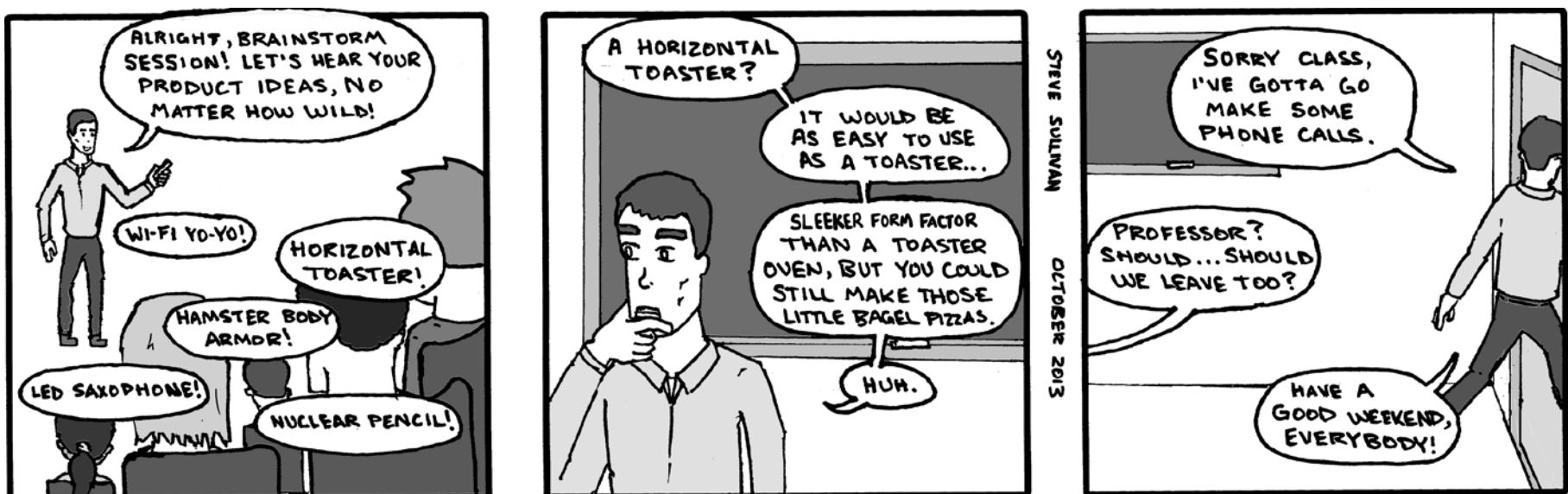
We are not the ones who have repeatedly threatened to shut down the political process and to rupture the financial mechanisms underpinning our economy, just to insist we get our way. Nor do we lose hope that eventually a better way of doing things can be negotiated — despite the continual effort of far too many Republicans over the past several years to hold our entire political system hostage to its unclear, ever-escalating and fundamentally regressive demands.

Martin Marks is a Senior Lecturer in the department of Music and Theater Arts



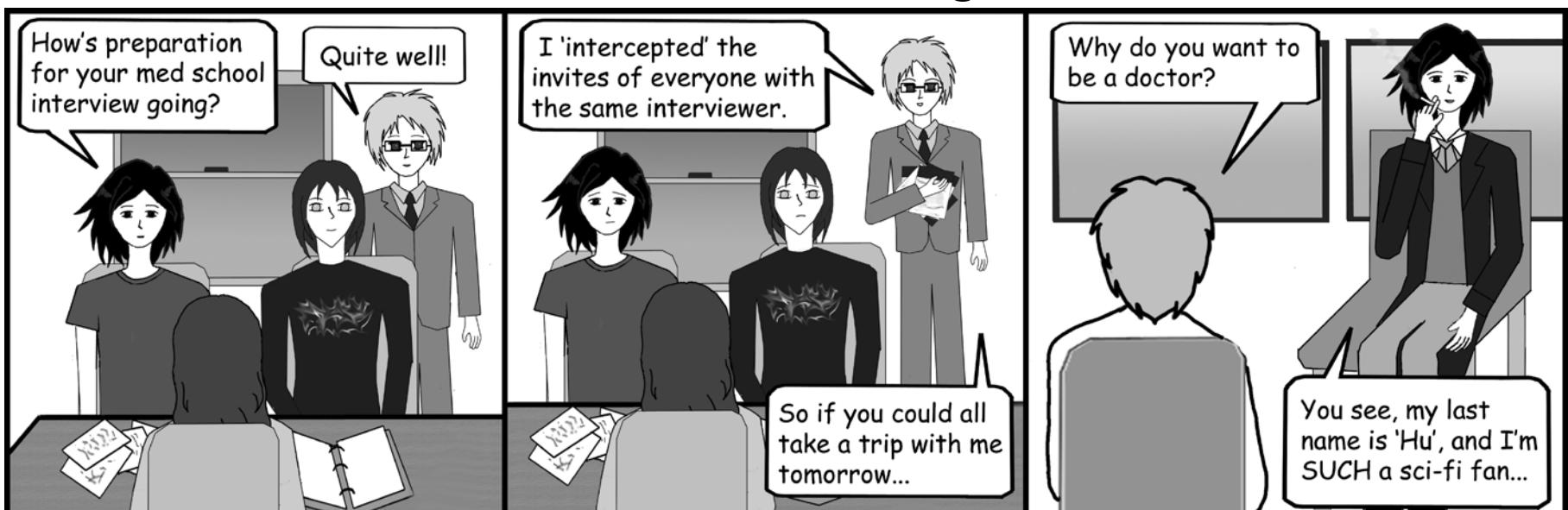
UPPERCUT

by Steve Sullivan

STEVE SULLIVAN
OCTOBER 2013

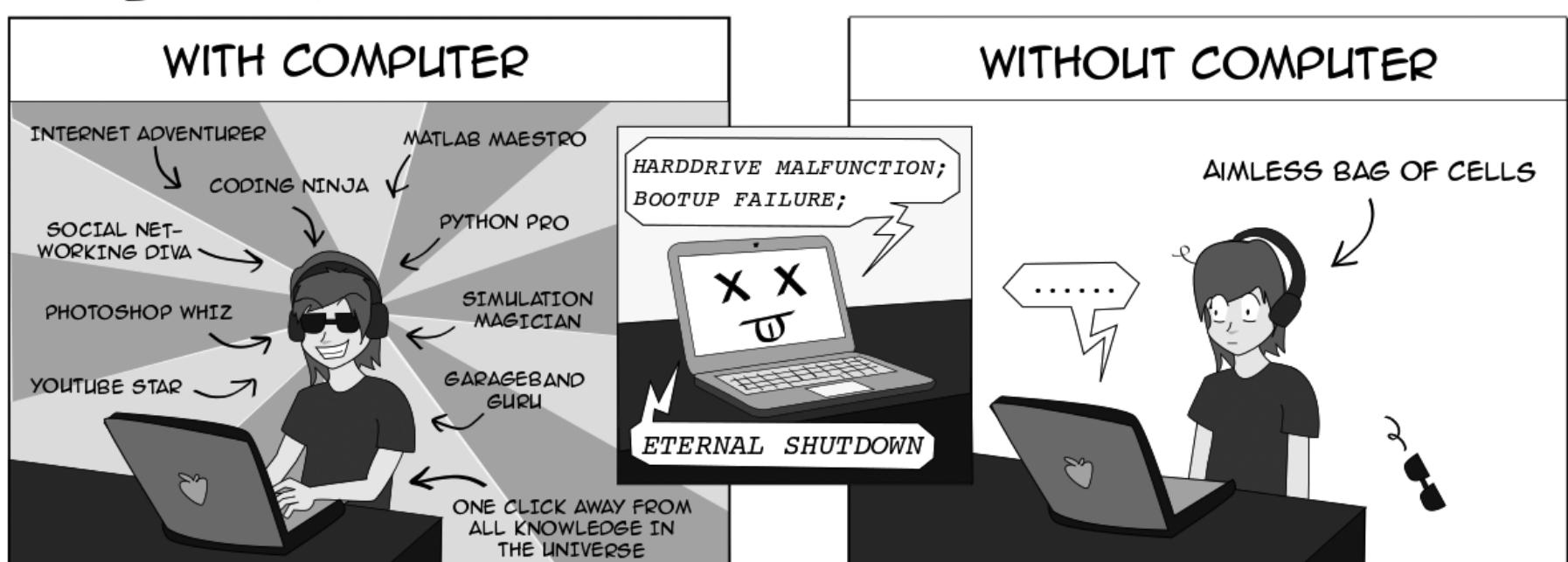
Somewhere in the Search for Meaning

by Letitia Li



Q.E.D. (QUITE EASILY DONE)

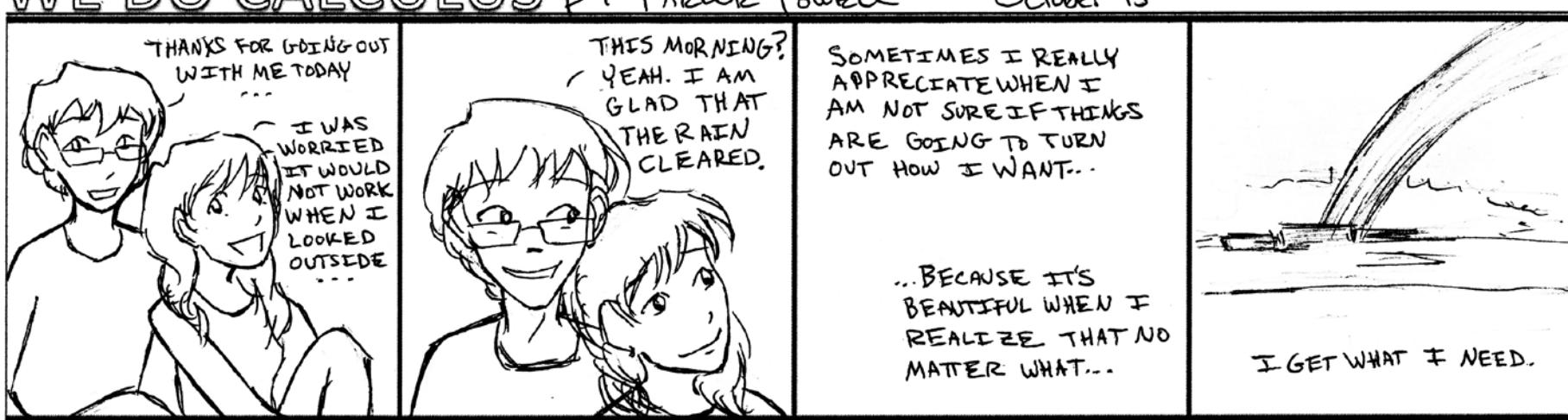
BY ERIKA TRENT



WE DO CALCULUS

by Pablo Powell

October '13

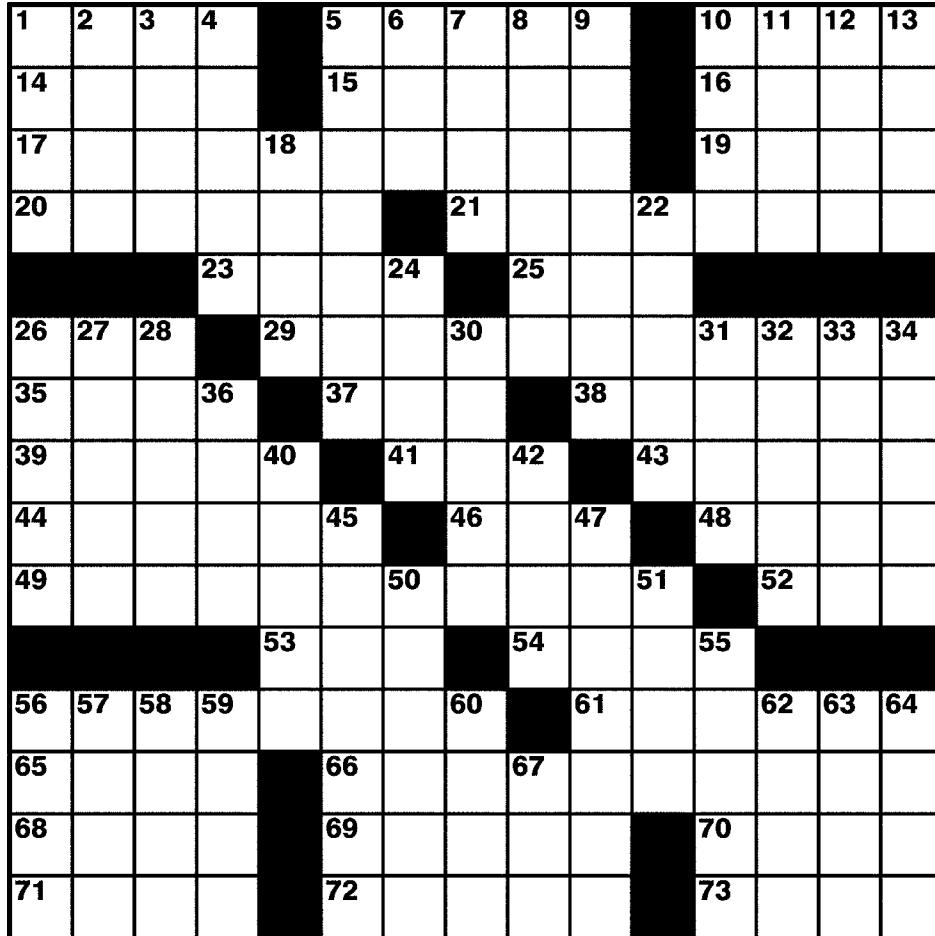




Airborne Thrills

by Billie Truitt

Solution, page 19

**ACROSS**

1 Milk dispensers
 5 Dimple maker
 10 Lifelong buddies, for short
 14 Otello excerpt
 15 "Don't sweat it"
 16 Doozie
 17 Airborne activity
 19 Slightly cracked
 20 Familiar maxim
 21 Off-road vehicle
 23 Sphere starter
 25 Likewise not
 26 USMC rank
 29 Airborne activity
 35 Greenish blue
 37 ATM maker
 38 Pacesetter
 39 Remove the groceries
 41 Pixel
 43 Hobbits' home
 44 Long green
 46 Four-yr. conflict
 48 Cherish
 49 Airborne activity
 52 Dudes
 53 Albuquerque sch.
 54 Chutzpah

56 Four-legged herder

61 Amp toter
 65 Sealing material
 66 Airborne activity
 68 The dark side
 69 Icicle sites
 70 Ship that transported Medea
 71 Muscle mag topic
 72 Pennsylvania painters' surname
 73 Snoring symbols

DOWN

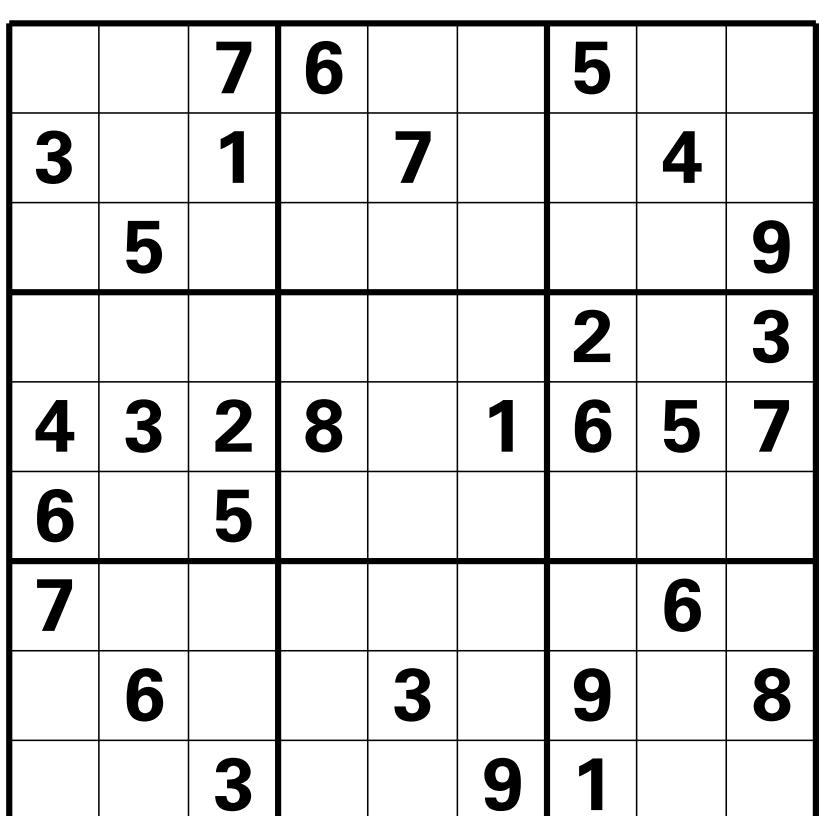
1 Baja resort
 2 Like some vaccines
 3 Out of control
 4 Taco topper
 5 Winter sculpture
 6 Work wk. start
 7 Footnote abbr.
 8 Jacket part
 9 Easter ritual
 10 Spill the beans
 11 Japan's highest peak
 12 Intense criticism
 13 "You bet!"
 18 Vow
 22 Hears in court

24 One way to deliver data

26 Baffle
 27 Cristoforo Colombo Airport site
 28 Piper's drum
 30 Dog's warning
 31 Wonka's creator
 32 Linguistic quirk
 33 Chutzpah
 34 Emerald or olive
 36 Carol syllables
 40 Prepare for a road trip
 42 Bit of kindling
 45 Use needle and thread
 47 Pressed for time
 50 "No harm done"
 51 Latch (onto)
 55 South American capital
 56 Big first for Junior
 57 Own
 58 Larger-than-life
 59 Entrées for otters
 60 Yield to pressure
 62 Urgent
 63 Bus Stop playwright
 64 Teamwork obstacles
 67 Deep black

Sudoku

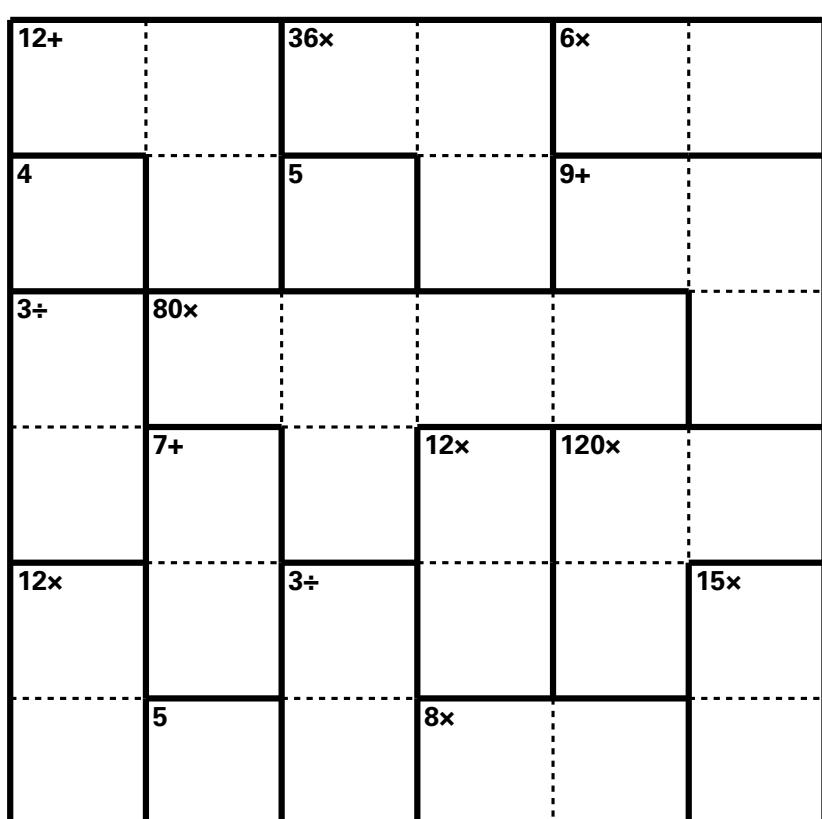
Solution, page 19



Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Techdoku I

Solution, page 19



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1-6. Follow the mathematical operations for each box.

Techdoku II

Solution, page 19

6x	80x			30x	2÷
		30x	1-		
18x				24x	
5		180x			4
4		2		3x	
48x				15x	

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Techdoku III

Solution, page 19

180x			72x	
2x	4		4-	
2	360x			6
36x		4		20x
9+	8+			
5	6		3x	

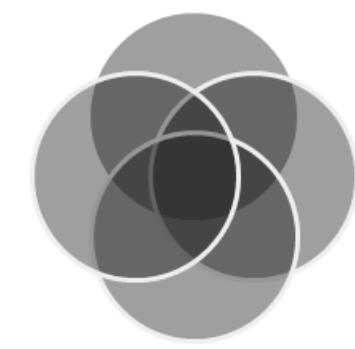
Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Techdoku IV

Solution, page 19

24+		12x		378x
10x	21+	9	1-	
24+	22+	6	1-	
8+	30x	14+	8-	
18x		8		5
3	216x		20+	
16+	288x	2-	5-	
4	16x		3-	9
12x	7	14+	8+	

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.



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EXHIBIT REVIEW

'An eagle in a dove-coat'

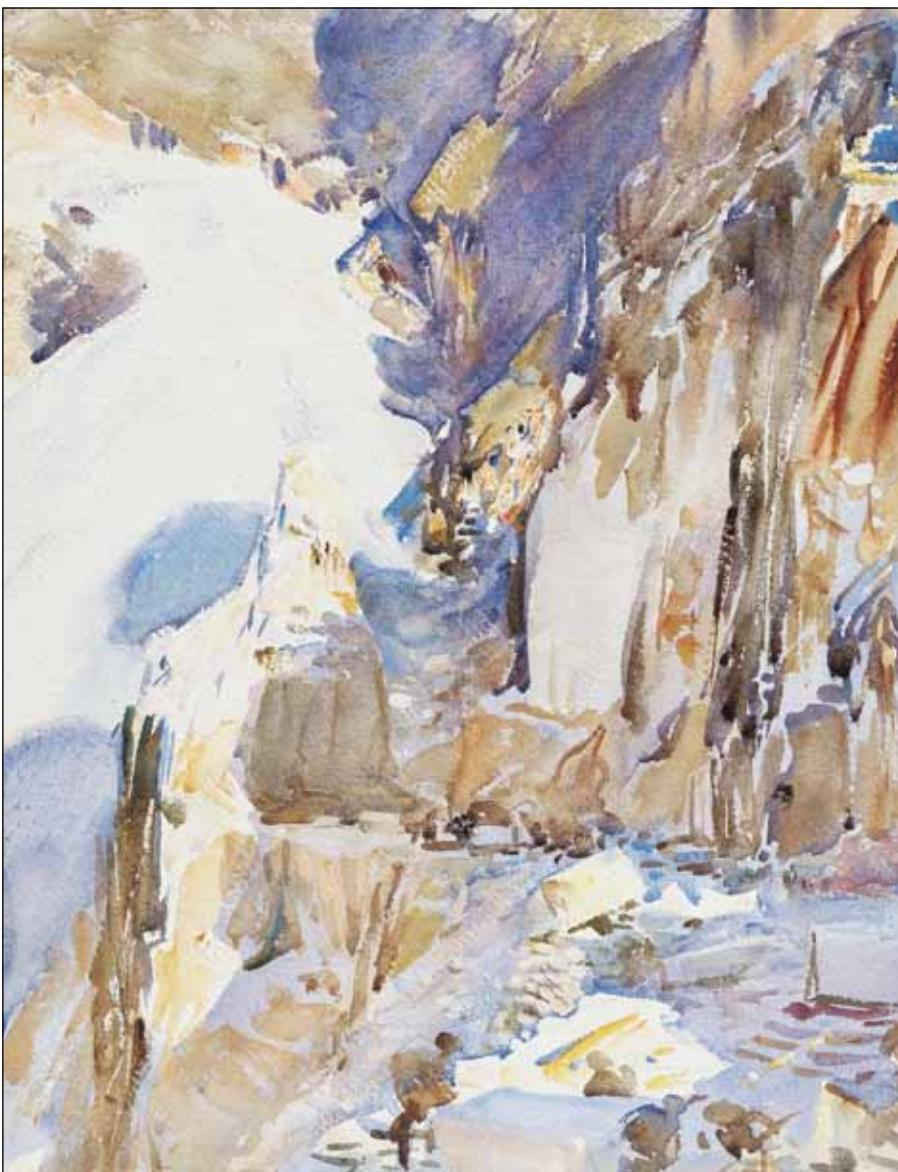
John Singer Sargent Watercolors opens at the MFA

By Grace Young
ARTS EDITOR

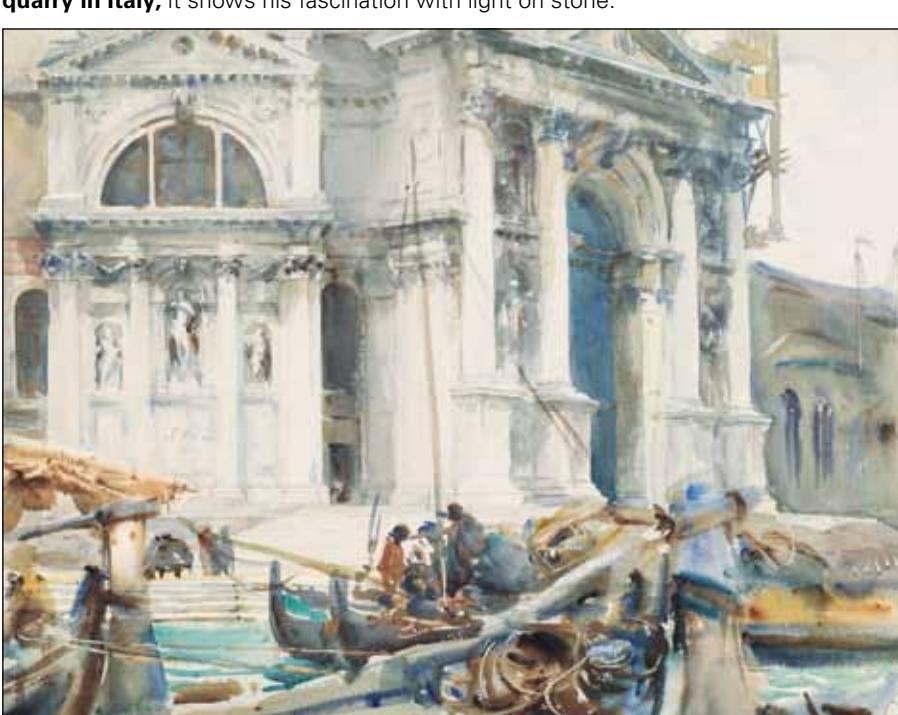
"What if Mick Jagger stopped singing 'Honky Tonk Woman'?" asked MFA curator Erica Hirshler at the opening of *John Singer Sargent Watercolors*. By 1907, the renowned Gilded Age portraitist John Singer Sargent had effectively abandoned his lucrative career as a portrait artist in favor of landscapes and figure studies in watercolor. It came as a shock to the art world, as if Jagger had given up "Honky Tonk Woman."

The product of several years work by Hirshler and Brooklyn Museum curator Teresa Carbone, the exhibit features ninety-two watercolors from Sargent's trips through the Mediterranean and the Middle East, including stunning portrayals of Venetian architecture, Bedouin camps, villa gardens, Alpine scenes, and Italian quarries. All the works date from 1902 to 1911, late in Sargent's career.

At the time, the Brooklyn Museum and the MFA were fierce rivals for Sargent's watercolors, aggressively bidding against each other at his 1909 and 1912 exhibits — his only major watercolor exhibitions in the US.



COURTESY OF THE BROOKLYN MUSEUM & MUSEUM OF FINE ARTS, BOSTON
Carrara: A Quarry (1911), one of many watercolors from Sargent's travels to the quarry in Italy; it shows his fascination with light on stone.



COURTESY OF THE BROOKLYN MUSEUM & MUSEUM OF FINE ARTS, BOSTON
Santa Maria della Salute (1904) from Sargent's travels in Venice. On loan from the Brooklyn Museum, the painting hangs next to his watercolor of the same church from the MFA's collection.

Much to the MFA's chagrin, the Brooklyn Museum purchased the entire contents of the first in 1909. Not to be outdone, the MFA determinedly acquired all the watercolors from his 1912 exhibit. At the time, it was the largest collection of any living painter acquired by the museum.

The turn of the 20th century competition between the museums is certainly a boon for us today. Having conveniently concentrated the bulk of Sargent's watercolors between them, this is the first time the two collections have been exhibited together.

Sargent's confident, bold strokes, loosely defined forms, and unexpected vantage points were contrary to contemporary aesthetic standards that called for carefully delineated landscapes and translucent washes in watercolors. One reviewer proclaimed him "an eagle in a dove-cote," shaking up norms for the medium.

The first part of the exhibit is organized geographically. It starts with watercolors from Venice, one of Sargent's favorite places to work; he painted more watercolors here than anywhere else. Two renderings of the Baroque-style Basilica Santa Maria della Salute hang side by side. Sargent painted both

at the same time, but from different vantage points and using different brushstrokes. One, with tighter, more finished-looking brushstrokes, is from the Brooklyn Museum's collection, and the other, with more blurred forms and blended colors, is from the MFA's collection.

Sargent's watercolors from the Middle East dominate the next room. Traveling without the usual entourage of family and friends, he began by visiting popular Biblical tourist sights, but found more artistic inspiration west of the Jordan River among the Bedouin natives. In his iconic *Bedouins*, depicting two Bedouin men staring intimately at the artist, he carefully renders their facial expressions and the folds in their garments, but leaves the scenery and lower quarter of the painting seemingly unfinished. *Bedouins*, and his other watercolors from the region, stood out from those by other Western artists in that they do not portray the "middle eastern dystopia" (Jean-Léon Gérôme's *The Snake Charmer* et al.).

Thereafter, the exhibit is organized by theme. Another room contains figures lying down. Sargent depicts his sister after a strenuous mountain hike and his friends dressed in Palestinian outfits in the Swiss Alps. Clearly Sargent was fascinated by white-on-white watercolor; something I imagine he took as a technical challenge. The cover painting of the exhibit, *Simplon Pass: Reading*, shows the young woman's white skirt comprising two thirds of the composition. In others, the ladies' skirts make a landscape of their own, with folds that echo the rolling grassy hills and mountain range.

Sargent was also keen to capture light on different surfaces. Hanging next to each other are an oil painting and watercolor of a babbling brook that he painted the same afternoon (*Val d'Aosta, A Stream over Rocks*). Sargent was unique in his time for treating watercolor not just as a preliminary medium for oil paintings, but as final works in their own right. *Val d'Aosta* was contemporary with Monet's *Water Lilies* and the exhibit helpfully hangs a small picture of Monet's piece next to Sargent's work for comparison.

Other themes in the following rooms include light on stone, watercraft, and Italian



COURTESY OF THE BROOKLYN MUSEUM & MUSEUM OF FINE ARTS, BOSTON
Bedouins (1905-1906) from Sargent's travels in the Middle East and North Africa.

John Singer Sargent Watercolors

Museum of Fine Arts Boston

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Undergraduate representatives for Institute Committees selected

The Undergraduate Association (UA) Council and Chair of the Faculty Steven Hall approved Institute Committees' undergraduate representatives Sept. 25. These

students were chosen through a "competitive selection process by the UA's Nominations Board," according to UA Chief of Staff Shruti Sharma '15. MIT Institute Com-

mittees — which are run by the faculty or administration and include undergraduate and graduate representatives — address a variety of issues at MIT.

Student representatives are usually voting members and are intended to "ensure that interests of the student body are understood and acted upon by the

committee," according to the UA's Institute Committee application document. Among the new Institute Committees this year is the Presidential Advisory Cabinet.

Presidential Advisory Cabinet

- Sidhanth P. Rao '14
- Thomas D. Alcorn '14
- Elise M. Myers '14
- Caitlin A. Mackey '15

Corporation Joint Advisory Committee

- Sidhanth P. Rao '14
- Anika Gupta '14
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Bexley Hall recommended for permanent closure

Students hope to preserve dorm's culture; administrators also indicate similar goals

Bexley, from Page 1

visory group, the membership of which consists of Kristjan Eerik E. Kaseniiit '14, Christopher J. Sarabalis '14, Nicolas M. Brown '16, and Noga Feinberg '15 representing Bexley, DormCon President Eli H. Ross '14, and Vice President for Residence Exploration Alina Kononov '14 as student representatives. Much of the time in the meetings was spent going through the facts and figures that Facilities had collected in their evaluation process.

"I had the opportunity to review facts regarding Bexley's structural concerns through engineering reports, pictures, and presentations," Ross said. "The damage was indeed

quite substantial, and I applaud DSL and the Department of Facilities for taking the time to go through these details with the group."

Although the members of the group were well-informed of the situation regarding Bexley up until this point, they did not hear about the recommendation to demolish Bexley until only slightly before Chancellor Eric Grimson PhD '80 announced the news to the broader Bexley community in an email.

Kaseniiit said that although the recommendation was not a surprise, "The decision to demolish was made based on no input from us."

"We were concerned that the decision to demolish versus reno-

vate was done so hastily, especially given that demolishing leads to a plethora of options for the land, while renovation leads to the creation of a new dorm," Kaseniiit said. "We were told that there is no evil master scheme in the works behind the curtains, and it is the potential hidden costs that make demolition cheaper than renovation."

Next steps

Both Grimson and Dean of Student Life Chris Colombo expressed that there will be new undergraduate dorm to replace Bexley should these plans to demolish the building go through.

"We need to figure out how to replace the lost beds. That is a key

priority for Dean Colombo and me," said Grimson

While a new building may not be on the same site that Bexley currently occupies, the hope of students and administrators is that Bexley's community will continue. Currently, former Bexley residents have space in the Pritchett Lounge in Walker Memorial to use for gatherings and events 24/7.

"We are glad we get to use the Pritchett Dining space, though there are still some kinks in communication with the various administrators with regards to our use of the space," Kaseniiit said. "An important issue in keeping a community going, as I'm sure many living groups here know, is the influx of

like-minded people. This is somewhat hard for Bexley, given that many of us are strong individualists. We are already seeing new faces at our shenanigans in Pritchett, which is great. However, this must be more seriously discussed in any future advisory groups regarding Bexley."

Colombo and Grimson both said that they are doing what they can to support the Bexley community through this rough time. The lounge space is only the first step — Grimson is working to convene a group to look at all of undergraduate housing at MIT, including looking at solutions for how to approach the situation if Bexley is demolished.

"I believe that at that MIT, there should be a Bexley," Sarabalis said.



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Students, professors shed light on new biology GIRs

New 7.01x variations target more fields, geared towards different biology backgrounds

Biology, from Page 1

"Personally, I find the level of detail we go into in lecture really cool," said "But the best part is the guest lectures. Every so often, a scientist in a field related to the current module comes in and gives a talk on their research and work."

Okumura teaches the course alongside Professors Michael Laub and Hidde Ploegh. The course is designed around six modules: antibiotic resistance, influenza, genetics and genomics, biotechnology, the microbiome, and diabetes.

"With those six lenses, we're able to teach all the fundamental principles of biology and how those principles relate to the biology that goes on all around us in the world and that you see in the news all the time," Okumura explained. "It really makes it relevant. We get at that relevance by reading popular press articles and having discussions and having students do in-depth presentations about particular topics within those fields."

The idea for the course was first floated around two years ago by Chris Kaiser, then head of the Department of Biology. However, Oku-

mura says that it wasn't until a year ago that the design for the course really got underway. The module topics were picked based on their relevance in the news, the professors' expertise, and the shared requirements for an intro biology course.

There are currently 40 students enrolled in the mostly freshman class, a smaller number than the instructors were initially expecting.

"I think there are a few factors that went into that," Okumura said. "I think, first of all, students are less inclined to take a course that hasn't been offered before because they don't know what to expect. I also think that the word got out on the street somehow that this was the harder class. Nobody can really say that. Nobody's taken this class before, so there's no way to know if it's actually harder or not."

Farris agreed with Okumura saying, "My one complaint about the class would probably be that since it's the first year they have it, there are no past exams to study from so it's a little harder to study for than the other 7.01x's, I think."

Okumura envisions that the format of the class will remain the

same in future years, but that the module topics might change. Although it's not yet clear which semester 7.015 will be offered in the long-term, Okumura says that the department has made a commitment to supporting 7.015 in the long run.

Of the two new bio classes offered in the fall this year, 7.016 more closely resembles 7.012.

"It's really cool to see the real-time applications of the concepts we're learning — it's a great reminder that we're learning material that's extremely current and relevant to the field of biology today," added Kenausis.

7.016

Of the two new bio classes offered in the fall this year, 7.016 more closely resembles 7.012 in lecture, homework, and recitation style. Like 7.012, 7.016 is geared towards students with or without a background in biology. Professors Bar-

bara Imperiali, Angelika Amon, David C. Page, and Dr. Divya Sinha have taken the helm in developing and teaching the new class.

"For several years with biology being made an institute GIR, the class that was being run in the fall was truly overburdened," explained Imperiali. "The numbers were too large and we were having to video-remote the class. The department made a commitment to the Institute that we would run another large class so that every student would have the chance to be in the classroom and participating directly rather than through a remote system."

In addition to easing crowding, the class is piloting the use of clickers in an intro bio class to try and receive real-time feedback. However, some students have expressed frustration at having to buy the iClicker 2's.

"I was annoyed by the fact that we were required to buy a different clicker than the one most people use in 8.01TEAL," commented Teresa C. Hegarty '17. "I think it would make sense to use the same type of clicker for all clicker classes, but I like the instant feedback and clarification that clicker questions provide."

The first half of the class covers the foundational material shared by all 7.01x biology classes, while the second half moves into topics that the professors found particularly interesting. These include cancer, evolution, fluorescent proteins, the cell and signaling, and medically-relevant topics.

"One of my goals for the class was to take topics in biology that are in the news, that people are thinking about, that are on the cutting-edge of medicine, and sort of connect it to the basics and use them as tools to teach people basic biology," said Amon.

Both Amon and Imperiali said that they have had a surprising amount of fun teaching an introductory biology class so far.

"I think it's a real honor to have all these freshmen in our class," said Imperiali. "We get to give them a great course in the first semester that they're at MIT. We realized the first day of class that it was probably their very first class at MIT."

Amon added, "We said to them in the beginning, 'My goal is to make all of you Course 7 majors.' That has to be the goal — to get people excited and interested in biology."



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IMAGE: Photograph of Katerina Cizek, taken by Jaime Hogue. Courtesy of the National Film Board of Canada

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```
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(Python)--L1--Top-----

New sustainability office starts strong

Newman excited for innovating sustainability here at the Institute

Sustainability, from Page 1

at Yale, Newman wants to make a distinction between her previous work and her work here.

"What I do at Yale, I'm not going to do at MIT, because MIT is its own entity. I want to bring a wealth of experience to MIT, want to make sure the framework that I develop reflects the culture and mission of MIT. There will be so much that will be similar, but also opportunities for different types of leadership," said Newman.

She hopes that the dedication to new models and innovation will translate well into sustainability research, paving the way for a cutting-edge approach to sustainability. "A robust, innovative sustainability program here is going to approach all of these issues from a systems perspective first; we will figure out where is the best leverage point for the biggest impact,

and that really changes the game," said Newman.

Newman hopes to use her experience to "bring a new voice to the table, asking different questions and having new ideas." For Newman, the excitement comes from the complexity of the situations and her ability to solve them systematically. This includes analyzing each realm of sustainability, and then bringing the proper expertise in to provide a resolution.

Newman is already busy assessing the current infrastructure of the university, engaging faculty to find new approaches to sustainability, and planning out a comprehensive roadmap for sustainability at the institute.

"In a couple of months people will start to see a framework for the office that'll interact with folks around campus; I hope to engage people and say, 'Can we think of this differently?'" said Newman.

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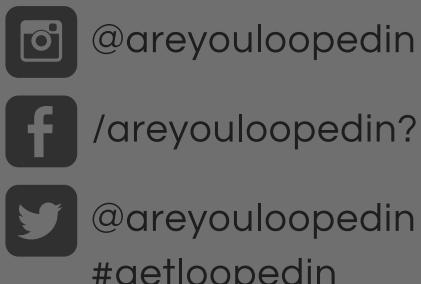
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MIT fined for plant emission violations

Cogen plant to retrain employees, upgrade exhaust stacks, venting

Air quality, from Page 1

heat, cold water, and electricity to MIT since 1995. Powered by natural gas, it contains boilers, a combustion turbine, and an emergency generator.

MIT plans to retrain employees who monitor emissions and opacity, implementing biannual refresher training sessions for staff. Furthermore, MIT will upgrade the exhaust stacks for natural gas boilers and emergency diesel engines by the end of this year, increasing

the height of the stacks and adding vertical vents. The plant will also either insert active particulate matter filters on the diesel engines or remove them by March of next year.

"We have already implemented a number of changes and anticipate that we will be able to complete the remaining work by the deadlines set forth in our agreement," said VanSchalkwyk, which means that in the following months, students can expect even more construction at MIT.

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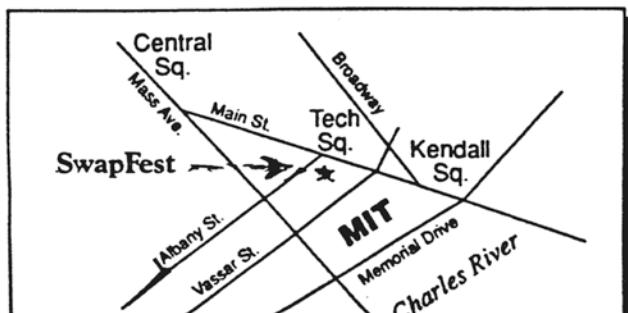
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THE NATURALIST'S NOTEBOOK

A glacier's gift

The story of New England's forests

By Davie Rolnick

I'm from Vermont. My state has many trees and a few people. When you combine those two things, you get delicious maple syrup. In October, you also get hordes of tourists — the so-called "leaf-peepers." Vermont calls itself the Green Mountain State, but it is really now, when the mountains are red and orange, that the forest gets the most attention. With winter approaching, trees pump the precious chlorophyll from their leaves and store it safely in their roots, revealing other leaf pigments that were previously obscured by green: the carotenoids (yellow/orange) and anthocyanins (red).

The autumn transformation starts with occasional splashes of color. Spots of scarlet appear on the leaves of the red maples, then whole trees seem to burst into flame. Next, the sugar maples glow golden orange. On the mountain slopes, birches and aspens add a stroke of yellow, and are matched by white ash and silver maple in the valleys. Red oaks join in, asserting a sober chestnut-red. The beeches become rainbows, as the outermost leaves of each tree turn orange-brown, the middle leaves change to yellow, and the innermost leaves preserve a bright spring-green. Finally, a few roadside sumacs are left to reddens the landscape as it settles into winter stillness.

Colorful trees and rich forests have only recently come to New England. Only 20,000 years ago, a glacier covered the entire Northeast in ice up to a mile thick. As it oozed southward under the pressure of its own weight, it scoured vegetation and earth

from the ground and gouged large chunks out of mountains. About 10,000 years ago, the climate warmed and the glacier receded, leaving behind a barren wasteland. As the glacier melted, it kindly replaced all the rocks and detritus it had picked up in its headlong advance. This is the origin of those giant boulders you may find lying around in the forest; they were chiseled out by the glacier and left behind.

Trees colonized the newly exposed mountains. Some slopes faced north and received less sunlight, making them cold and damp. In the darkest ravines, the hemlocks — giant conifers that can live up to a thousand years — took root. On the windy upper slopes, the birches and poplars settled, trees from the far north. Birch bark peels off in sheets, enabling the tree to rid itself of a pesky fungus. This attribute makes it an ideal material for dishes and canoes. Poplars (also called aspens) are known for bending in the wind, an adaptation for enduring harsh northern blizzards and heavy snowfall. The bark of poplars is slightly green from chlorophyll, which is used for photosynthesis even when the cold of winter makes it impossible for leaves to grow.

The sunny south-facing slopes, covered with rocks by the glacier, were warm and dry — the perfect place for forest fires. We humans flatter ourselves for having "invented" fire, but natural fires are a common occurrence over much of the world, and are actually necessary to the survival of many species. Trees like oaks, pines, and hickories are specially adapted to resist fire. They have thick bark and large tough seeds

that sometimes don't sprout at all unless they're lightly burned first. Now that people have started extinguishing forest fires, some of these trees are having a hard time competing.

The beautiful American beech is another tree that colonized these south-facing slopes. It isn't a fire-resistant species: it just wanted to stay warm. Beeches come from the tropics, and this species is the northernmost of its kind. However, it still looks like a rainforest tree. It has huge, broad branches, perfect for climbing, and long-tipped leaves that channel the rain away.

As the trees of New England change color, think about glaciers as you admire the carotenoids. Even at MIT, fall foliage is quite spectacular.

The smooth, pale gray bark, which lovers sometimes write on, is also an adaptation to the tropics, where it stops the tree from being overrun by vines and other plants looking for a foothold. Unfortunately, smooth bark is a terrible idea in a northern winter, since it splits easily in the cold. Almost every other tree here has ridged bark, which can expand and contract with temperature changes.

The valleys of New England were vast lakes only a few thousand years ago, filled with meltwater from the retreating glaciers. When the water receded, it left behind rich soil that is now perfect for farming. Trees such as the White Ash and American Elm grow in these soils. Ashes are straight, tall trees, with exceptionally hard wood that

is used for making baseball bats and fancy furniture. Elms are stately, with spreading branches, and were once planted in gardens and parks, but have now become very rare as a result of an invasive fungus called Dutch elm disease.

The quintessential New England tree is the maple. Different species grow in each habitat. In rich lowland soils, the dominant tree is the large sugar maple. Around rivers, it is replaced by the silver maple, a drooping, elegant tree whose leaves look silver from underneath. In bogs and poor soils, there is the red maple, while on hillsides the

striped maple offers its huge leaves to hikers who need toilet paper. At the very tops of mountains lives the tiny mountain maple, rarely bigger than a sapling.

As the trees of New England change color, think about glaciers as you admire the carotenoids. Even at MIT, fall foliage is quite spectacular. The banks of the Charles are planted with exotic Japanese zelkovas, which turn a bright red-brown. In Killian Court, the red maples are scarlet and the elms are yellow. There are even sugar maples on the far side of Next House, with orange leaves and the promise of syrup.

But, of course, the best maple syrup comes from Vermont.

Solution to Crossword*from page 7*

A	R	I	A	N	O	B	I	G	L	L	U	U
B	A	L	L	O	O	N	I	N	G	A	J	A
O	L	D	S	A	W	D	I	R	T	B	I	K
S	G	T		H	A	N	G	G	L	I	D	I
T	E	A	L		N	C	R		L	E	A	D
U	N	B	A		D	O	T		S	H	I	R
M	O	O	L	A		W	W	I		L	O	V
P	A	R	A	S		I	A	L		M	E	N
S	H	E	E	P	D	O	G		R	O	A	D
T	A	P		S	K	I	J	U	M	P	I	N
E	V	I		E	A	V	E	S		A	R	G
P	E	C		W	Y	E	T	H		Z	E	E

Solution to Techdoku II*from page 8*

3	5	1	4	6	2
2	4	6	3	5	1
1	3	5	2	4	6
5	1	3	6	2	4
4	6	2	5	1	3
6	2	4	1	3	5

Solution to Sudoku*from page 7*

9	4	7	6	1	8	5	3	2
3	2	1	9	7	5	8	4	6
8	5	6	3	4	2	7	1	9
1	7	8	4	5	6	2	9	3
4	3	2	8	9	1	6	5	7
6	9	5	7	2	3	4	8	1
7	1	9	2	8	4	3	6	5
5	6	4	1	3	7	9	2	8
2	8	3	5	6	9	1	7	4

Solution to Techdoku III*from page 8*

4	3	5	1	6	2
3	2	4	6	5	1
2	1	3	5	4	6
1	6	2	4	3	5
6	5	1	3	2	4
5	4	6	2	1	3

Solution to Techdoku I*from page 7*

5	4	6	1	3	2
4	3	5	6	2	1
3	2	4	5	1	6
1	6	2	3	5	4
2	1	3	4	6	5
6	5	1	2	4	3

Solution to Techdoku IV*from page 8*

8	5	7	2	3	4	9	6	1
5	2	4	8	9	1	6	3	7
1	7	9	4	5	6	2	8	3
2	8	1	5	6	7	3	9	4
3	9	2	6	7	8	4	1	5
6	3	5	9	1	2	7	4	8
9	6	8	3	4	5	1	7	2
7	4	6	1	2	3	8	5	9
4	1	3	7	8	9	5	2	6

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CAMPUS LIFE CAMPUS LIFE CAMPUS LIFE

Senior heads to weightlifting worlds

Junior Olympian and Course 2 senior Mike Nackoul selected to represent the USA at the World Weightlifting Championships

By Allison Sobczak
SPORTS WRITER

Massachusetts Institute of Technology student, Michael A. Nackoul '14, a Pittsburgh native, has been selected by USA Weightlifting (USAW) to represent the United States at the International Weightlifting Federation's (IWF) World Weightlifting Championships in Wroclaw, Poland, Oct. 16-27. Nackoul was named to the USA World Weightlifting Team, an elite group of the country's 15 top male and female weightlifters, who will compete in Poland against athletes from 62

different countries.

The 22-year old Nackoul, who competes in the 85-kilogram (187 lbs.) weight class, is

sia in 2011 with lifts of 143 kilos (315 lbs.) in the snatch event and 186 kilos (410 lbs.) in the clean and jerk.

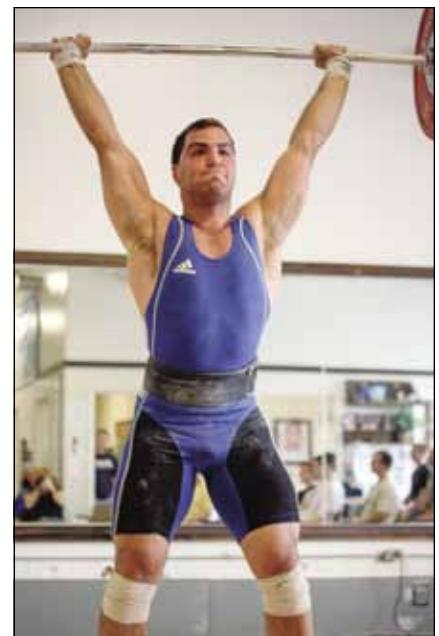
Smalcerz, who is a 1972 Olympic Gold medalist and International Weightlifting Federation Hall of Fame member.

He has his sights set on qualifying for the 2016 Summer Olympics in Rio de Janeiro, Brazil, following his graduation from MIT in December. "I'm honored to represent the United States at the World Championships in Poland," notes Nackoul. "My teammates and I have been working hard. Competing against the best in the world is a great experience that will help all of us as we work toward 2016," said Nackoul.

Nackoul splits his time between Boston, Pittsburgh, and the U.S. Olympic Training Center in Colorado.

a two-time USA Junior World team member and recently competed at the World University Games in Kazan, Russia. Nackoul has won three national championships in his age group and placed seventh in the Junior Worlds in Malay-

Currently a senior at MIT, Nackoul splits his time between Boston, Pittsburgh and the U.S. Olympic Training Center in Colorado Springs, Colorado, where he trains as a resident athlete with U.S. National Team Coach Zygmunt



Michael A. Nackoul '14 competes in Pittsburgh. Nackoul has been selected for the USA World Weightlifting Team.

MIT field hockey beats Clark, 4-0



Elizabeth Dethy '15 swings at the ball during a field hockey match against Clark University on Saturday, Oct. 12. MIT won 4-0.

Women's tennis crushes Smith College, 9-0



Victoria Tam '16 serves in a Women's tennis match against Smith College on Saturday, Oct. 12. MIT won 9-0.

UPCOMING HOME EVENTS

Friday, October 18

Rifle vs. Rose Hulman	3 p.m., DuPont Athletic Center
Women's volleyball vs. Western New England University	7 p.m. Rockwell Cage
Football vs. Nichols College	7 p.m. Steinbrenner Stadium

Saturday, October 19

Sailing vs. Firefly and FJ Invite	9 a.m. Charles River
Rifle vs. Rose Hulman, Wentworth, John Jay	9 a.m., DuPont Athletic Center
Women's volleyball vs. Rivier University	11 a.m. Rockwell Cage
Swimming and diving vs. Alumni Meet	12 p.m. Zesiger Center Pool
Men's soccer vs. Clark University	1 p.m. Steinbrenner Stadium
Women's volleyball vs. UMass Boston	2 p.m. Rockwell Cage
Men's heavyweight crew vs. Head of the Charles	2:04 p.m. Charles River
Women's openweight crew vs. Head of the Charles	2:20 p.m. and 3:06 p.m. Charles River

Brooklyn Nets to win NBA Atlantic Division

Celtics likely to come up short this year after trading Paul Pierce, Kevin Garnett

By Austin Osborne
SPORTS EDITOR

NBA Atlantic Division Preview

1. Brooklyn Nets

Brooklyn is absolutely in win-now mode. This offseason, they added to their already mega-talented starting line-up consisting of Deron Williams, Joe Johnson and Brook Lopez with a mega-trade with the Boston Celtics. They acquired future Hall of Famers Paul Pierce and Kevin Garnett, while also adding bench scorer Jason Terry. They have arguably the best starting five in the league, but it remains to be seen if their bench can be effective enough to make a significant push in the Eastern Conference. There have been plenty of outstanding starting line-ups over the years, but it's been proven time and time again that a championship team needs a bench to succeed. Another question going into the season is how new coach Jason Kidd will handle his first coaching experience, especially with a team full of veterans. The Nets will have an interesting year, but they should win the East handily.

2. New York Knicks

The Knicks come into the season as a similar team from last year. They added Metta World Peace in the offseason and sharpshooting big man Andrea Bargnani in a trade with Toronto. They also drafted Tim Hardaway, Jr., a shooting guard out of Michigan who could make a fairly significant impact this season off the bench. They didn't make many moves this offseason, but overall they had effective transactions and they should make up for the losses of Jason Kidd, Steve Novak and Chris Copeland. They still have two of the best pure perimeter scorers in the league in Carmelo Anthony and J.R. Smith, while Amar'e Stoudemire provides a formidable post presence when healthy. Tyson Chandler will continue to anchor the defense and overall, the Knicks have a good chance to take the division and potentially do some major damage in the playoffs.

3. Toronto Raptors

Even though Andrea Bargnani was the cornerstone of the Raptors franchise for much of the past 5-6 years, the former number one overall pick became expendable when Toronto acquired Rudy Gay last season in a trade with Memphis and when young big man Jonas Valanciunas began to have a break out season. They added some key complementary pieces that can help them make the playoffs for the first time since the days when Vince

Carter donned the purple and black. Tyler Hansbrough and D.J. Augustin are two young players that can make a huge impact off the bench, and Rudy Gay was once the focal point of Memphis' offensive attack. He began to fade for the Grizzlies, but he played well in his limited time in Toronto last season, and it will be interesting to see if he can regain his old form when he is once again the star of the team. The Raptors are on the way up, but I don't see them earning more than a seventh or eighth seed in the playoffs this year.

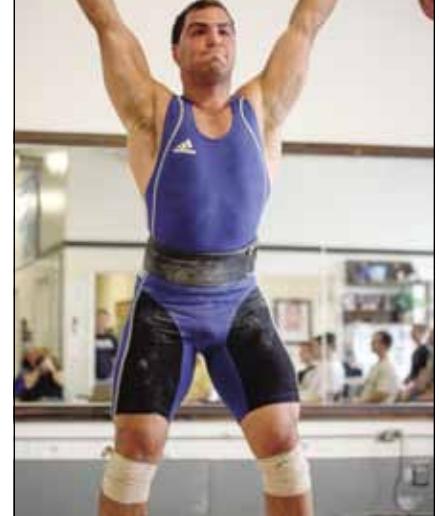
4. Boston Celtics

Boston made a blockbuster trade this offseason and completely changed the identity of their team. They lost Paul Pierce, the face of their franchise for the past decade, and Kevin Garnett, an instrumental part of their championship run in 2008.

The only starter that remains from that team is point guard Rajon Rondo and he could be on his way out the door soon. It appears that the Celtics have decided to rebuild under new coach Brad Stevens, previously coaching in the NCAA for Butler. They have added a few young players with upside, and are obviously looking toward the future. There is a lot to like about their first round draft pick, Kelly Olynyk out of Gonzaga and it looks as though he could be their center of the future alongside Jared Sullinger. They can also allow forward Jeff Green to grow this season and see how his play style fits with Rondo's. I wouldn't be surprised if Rajon is traded by midseason, however, as Boston has tried to trade him multiple times in the past. This will be a rough season for the Celtics, and they will be competing with Philadelphia for first pick in next season's talent-loaded draft.

5. Philadelphia 76ers

The 76ers are looked at by many as the worst team in the NBA this season, and for good reason. In this year's draft, they shocked everyone by trading their All-Star point guard Jrue Holiday to the New Orleans Pelicans for next year's first round pick and this year's sixth overall pick, Nerlens Noel. They also allowed streaky scorer Nick Young to leave in free agency along with Dorell Wright. The Sixers struggled to score last season, even with those three players, so without them it will be almost impossible to beat even the middling teams in the league. This season will be Evan Turner's final chance to prove that he can be an effective NBA player, as his contract expires after the season, but this will be his perfect opportunity. He will be the focal point of the offense and will be able to showcase his abilities. Philadelphia should definitely be in the running for the number one pick this season.



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